



# **NAVAL POSTGRADUATE SCHOOL**

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## **JOINT APPLIED PROJECT**

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**Contract Specialist Turnover Rate and Contract Management  
Maturity in the National Capital Region Contracting Center: An  
Analysis**

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**By: Dina T. Jeffers  
December 2009**

**Advisors: Rene G. Rendon  
George A. Sears**

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**CONTRACT SPECIALIST TURNOVER RATE AND CONTRACT  
MANAGEMENT MATURITY IN THE NATIONAL CAPITAL REGION  
CONTRACTING CENTER: AN ANALYSIS**

Dina T. Jeffers  
Civilian, United States Army

Submitted in partial fulfillment of the requirements for the degree of

**MASTER OF SCIENCE IN CONTRACT MANAGEMENT**

from the

**NAVAL POSTGRADUATE SCHOOL  
December 2009**

Authors:

---

Dina T. Jeffers

Approved by:

---

Dr. Rene G. Rendon, D.B.A., Lead Advisor

---

George A. Sears, Support Advisor

---

Dr. William R. Gates, Dean  
Graduate School of Business and Public Policy

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## **ABSTRACT**

The U.S. Army Contracting Command National Capital Region Contracting Center (ACC-NCRCC or NCRCC) incorporates the Army's Contracting Center of Excellence (CCE) and the U.S. Army Information Technology, E-Commerce and Commercial Contracting Center (ITEC4). CCE provides contracting support to the Army Secretariat and the Army Staff. ITEC4 provides worldwide information technology contracting support and procures enterprise information technology support and equipment for Army and Department of Defense (DoD) activities (ACC, 2009, n.p.). The purpose of this research is to measure the turnover rate of the NCRCC's contract specialists, assess its contract management capability process maturity and determine if a relationship exists between the two.

Research for this study consisted of collecting NCRCC contract specialist statistical data and qualifications from NCRCC Human Resources (HR) for the 12-month period observed and using it to calculate the turnover rate. The research also included deploying survey questions to the NCRCC workforce to assess its contract management process capability maturity.

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## LIST OF ACRONYMS AND ABBREVIATIONS

ACC-NCRCC	U.S. Army Contracting Command National Capital Region Contracting Center
ACC	Army Contracting Command
ACTEDS	Army Career Training & Education Development System
AMC	Army Material Command
AT&L	Acquisition, Technology and Logistics
BLS	Bureau of Labor Statistics
BRAC	Base Realignments and Closures
CCE	Army's Contracting Center of Excellence
CDG/AAF	Competitive Development Group/Army Acquisition Fellowship
CM	Contract Management
CMMM©	Contract Management Maturity Model ©
DA	Department of the Army
DAWIA	Defense Acquisition Workforce Improvement Act
DoD	Department of Defense
FAR	Federal Acquisition Regulation
GAO	United States Government Accountability Office
GS	General Schedule
HR	Human Resources Department
ITEC4	U.S. Army Information Technology, E-Commerce and Commercial Contracting Center
JOLTS	Job Openings and Labor Turnover Survey
NCR	National Capital Region

NCRCC	US Army Contracting Command National Capital Region Contracting Center
NSPS	National Security Personnel System
OPARC	Office of the Principal Assistant Responsible for Contracting
OPM	U.S. Office of Personnel Management
PARC	Principal Assistant Responsible for Contracting
PWS	Performance Work Statement
SOO	Statement of Objectives
SOW	Statement of Work

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## EXECUTIVE SUMMARY

The U.S. Army Contracting Command National Capital Region Contracting Center (ACC-NCRCC or NCRCC) incorporates the Army's Contracting Center of Excellence (CCE) and the U.S. Army Information Technology, E-Commerce and Commercial Contracting Center (ITEC4). CCE provides contracting support to the Army Secretariat and the Army Staff. ITEC4 provides worldwide information technology contracting support and procures enterprise information technology support and equipment for Army and Department of Defense (DoD) activities (ACC, 2009, n.p.). The purpose of this research is to measure the turnover rate of the NCRCC's contract specialists, assess its contract management capability process maturity and determine if a relationship exists between the two.

Research for this study consisted of collecting NCRCC contract specialist statistical data and qualifications from NCRCC Human Resources (HR) for the 12-month period observed and using it to calculate the turnover rate. The research also included deploying survey questions to the NCRCC workforce to assess its contract management process capability maturity.

The results of this research shows that no apparent relationship exists between the NCRCC contract specialist turnover rate and its contract management process capability maturity. The NCRCC turnover rate is low as compared to the entire Federal Government's turnover rate for the period observed; however, NCRCC leadership should measure and track employee turnover as well as the costs associated with it to manage its workforce and protect its brand. Generally, NCRCC's contract management process maturity level is low. CCE received an *Ad-hoc* maturity rating for the Procurement Planning, Solicitation Planning, Solicitation, Contract Administration, and Contract Closeout key process areas and a *Basic* maturity rating for the Source Selection key process area. ITEC4 received a *Basic* maturity rating for all six key

process areas. Recommendations for improving NCRCC's maturity level consists of establishing and institutionalizing processes and standards, mandating its employees to use them on all contracts, initiating organization-wide CM training, developing efficiency and effectiveness metrics, and building a lessons-learned and best practices database.

# **I. INTRODUCTION**

## **A. INTRODUCTION**

The purpose of this chapter is to present a general overview of this research project. It will provide the research purpose, objectives and background information. Next, it will describe the research methodology, the limitations of the research, and the primary and subsidiary research questions. It will then explain the organization of this report and lastly, provide a chapter summary.

## **B. RESEARCH PURPOSE AND OBJECTIVES**

In this project, the author will analyze the turnover rate for NCRCC contract specialists and assess NCRCC's Contract Management (CM) process capability maturity level using the Contract Management Maturity Model © (CMMM ©) (Garrett & Rendon, 2005a, p. 49). The CMMM is an approach to assessing process capability maturity by focusing on six key process areas: Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration, and Contract Closeout (Garrett & Rendon, 2005a, p. 49). Based on this analysis, the author will then attempt to determine if a relationship exists between the NCRCC's contract specialist turnover rate and its CM process capability maturity.

The author expects that if any relationship exists, the NCRCC turnover rate will impact its maturity level and not the other way around. It is unlikely that the reverse would exist. Lastly, the author will identify possible solutions and recommend approaches to improve NCRCC's organizational capability based on the analysis. The results of this research will assist NCRCC leadership in identifying areas that may need additional emphasis such as personnel, resources, and training.

## **C. BACKGROUND**

Since the end of the Cold War, DoD significantly reduced the size of its civilian contracting workforce through downsizing, base realignments and closures (BRACs), and competitive sourcing initiatives. The Department assumed that after the Cold War ended the contracting workload would decrease (GAO-04-753, 2004, p. 7). DoD did not anticipate that in addition to planned workforce reductions that the workforce would be further reduced as the baby boom generation began to retire. Experts estimate that by the year 2012, the acquisition workforce will reduce by half due to a retirement eligible workforce (SARA, 2007, p. 3). This has created an acquisition workforce shortage at a time when DoD contracts have increased in both complexity and volume (Gansler, 2007, p. 14) and DoD needs experienced CM personnel to manage its workload.

In NCRCC, the workforce shortage is further complicated because it is geographically located in the National Capital Region (NCR), just outside of the nation's capital where there are many defense and civilian Government contracting agencies as well as industry contracting organizations. These organizations compete for skilled contract specialists thus creating "a war for talent" (Mathis & Jackson, 2003, p. 80) and contracting professionals are enticed to climb the career ladder by 'job-hopping' and 'job shopping' (Harrison, R., 2008, p. 49). The current 'buyer's market' for contract specialists has led to an increase in the turnover rate for these employees within Government and industry contracting organizations. A high turnover rate in the NCRCC could impede its ability to complete its mission successfully and could negatively impact the NCRCC brand, which should support its vision: "To be the best contracting service experience" (NCRCC Town Hall Meeting, 2009, p. 4).

A high turnover rate can lead to an unstable workforce that is likely to have difficulty managing mature contract processes. This is because unstable organizations endure new employees consistently going through a process learning curve so that even if an organization has standardized processes in

place, the individuals responsible for working within them may have difficulty putting them into practice. A stable workforce is more capable of implementing mature, standardized processes and continuously improving them until these processes become mature.

If NCRCC wishes to protect its brand, it must maintain a competitive advantage over other contracting organizations within NCR, in terms of successful performance. It requires “a systematic approach to assessing effectiveness and competence” (Garrett & Rendon, 2005a, p. 49). The Contract Management Maturity Model © (CMMM ©) is one useful tool for conducting such an assessment. Applying the CMMM © will allow NCRCC to determine its CM process capability maturity for the six key process areas, which will “serve as the foundation for ongoing discussion and further development within” the contracting center (Garrett, 2007, p. 214).

#### **D. RESEARCH METHODOLOGY**

Research for this project consists of collecting NCRCC contract specialist turnover rate statistical data and qualifications from NCRCC Human Resources (HR) for one 12-month period, April 2008 through March 2009, and using it to calculate the turnover rate. The research will be limited to NCRCC nonsupervisory contract specialists, grade GS-12 and above. These contract specialists work ‘where the rubber meets the road’ and should be performing at journeyman or advanced levels. The research also includes deploying survey questions to the NCRCC workforce to assess its CM process capability maturity. The author will look for a relationship between NCRCC’s turnover rate and its CM process capability maturity level, report the findings and offer recommendations for improvement.

#### **E. LIMITATIONS OF THE RESEARCH**

Turnover rate calculations used in this research project are not exact for a variety of reasons. First, the author will use a modified version of the turnover

rate formula described in Chapter II to calculate the turnover rate. The formula described in Chapter II calculates turnover using mid-month data; however, this was not available to the author who therefore, calculated NCRCC's turnover rate using end-of-month data. Further, the total number of employees used to calculate the turnover rate includes employees located at Fort Huachuca, AZ. One cannot attribute the turnover of these employees to market conditions in NCR. Lastly, the turnover analysis in this project does not distinguish between dysfunctional and controllable turnover from other turnover types, however, NCRCC stakeholders should consider this when using this research.

The CM process maturity assessment may also be slightly limited. One reason is that the author obtained CM maturity data from an online survey that NCRCC contract specialists completed anonymously. Subsequently, the survey results are only as accurate as the data that survey participants entered. Finally, the research only invited NCRCC nonsupervisory contract specialists grade GS-12 and above to participate in the survey since this group is the focus of the research. Approximately 204 employees were eligible to participate and 137 surveys were completed (20 for CCE and 117 for ITEC4) for a response rate of 67%. Larger or smaller sample sizes may result in different findings.

## **F. RESEARCH QUESTIONS**

This project addresses two primary and four subsidiary research questions:

### **1. Primary Research Questions**

- a. What is the current turnover rate of contract specialists in NCRCC?
- b. What is the current maturity level of NCRCC's contract management processes?

## **2.     Subsidiary Research Questions**

- a.     Is there a relationship between NCRCC contract specialist turnover and the maturity level of its contract management processes?
- b.     How does the contract specialist turnover rate affect NCRCC's contract specialist average experience level?
- c.     How does NCRCC's contract specialist average experience level affect its training requirement?
- d.     How can NCRCC raise its CM process maturity level?

## **G.     REPORT ORGANIZATION**

The author organized this report into five chapters. Chapter I, the Introduction, discusses the purpose and objectives of the study, provides background information, explains the research methodology, the research limitations, sets forth the primary and secondary research questions, and explains the organization of this report. Chapter II, the Literature Review, discusses the current contracting environment, employee turnover, the Contract Management Maturity Model © (CMMM), and their impact on contracting organizations. Chapter III describes the National Capital Region Contracting Center, its major and subordinate commands and their missions, organizational structures, workforce makeup, and explains why NCRCC is suitable for this study. Chapter IV provides the results of the NCRCC turnover analysis and the results of the CM process maturity analysis. Chapter V presents the author's research conclusions, summarizes the research findings, and discusses possible areas for further research.

## **H.     SUMMARY**

DoD is facing an acquisition workforce shortage at a time when its contract requirements have become more complex and voluminous (Gansler, 2007, p. 14). Additionally, NCRCC must compete with other contracting



organizations for CM personnel in NCR. If NCRCC's contract specialist turnover rate is too high, and its workforce becomes unstable, its brand may suffer. One way to protect the NCRCC brand is to assess its CM process capability and use the assessment to identify process improvement opportunities as recommended in this research project.

In this chapter, the author discussed the research purpose and objectives, described background information, and the research methodology. Next, the author presented the limitations of the research, research questions, and the report organization. The next chapter will provide a literature review on employee turnover and CM process maturity.

## **II. LITERATURE REVIEW**

### **A. INTRODUCTION**

This chapter describes the current government contracting environment and explains why it is important for contracting organizations, particularly those in NCR, to assess its employee turnover rate and CM process maturity level. It describes different turnover types, explains how to measure it and what turnover costs an organization. Next, this chapter explains why analyzing CM process capability is important to NCRCC, describes the purpose of assessing process capability maturity, presents the Contract Management Maturity Model © (CMMM), and explains how and why CM process maturity is measured.

### **B. CURRENT CONTRACTING ENVIRONMENT**

Government contracting processes are under tremendous public scrutiny. Media focus on Federal contracts in Iraq such as the State Department's private security contract with Blackwater Worldwide (Dreazen, 2009) and the Army's Logistics Civil Augmentation Program (LOGCAP) contract with KBR Halliburton (Castelli, 2009) have drawn public awareness to Federal contracting processes.

This awareness increased after the passage of the American Recovery and Reinvestment Act of 2009 (Recovery Act, 2009), as United States tax payers demanded to know how the Government would spend their tax dollars to stimulate the economy. The President of the United States' March 4, 2009 memorandum on the subject of government contracting focuses on competition, contract type, and outsourcing initiatives (Government Contracting, 2009). In addition, the Federal Government established a website that provides Federal contract information to the American public (USAspending.com, 2009), a result of the President's push for transparency (Transparency, 2009).

According to the Report of the Acquisition Advisory Panel to the Office of Federal Procurement Policy and the U.S. Congress, “The demands on the [contracting] workforce, both in terms of the complexity... and nature of what is bought, have markedly increased since the 1980s” (SARA, 2007, p. 18). The Commission on Army Acquisition and Program Management in Expeditionary Operations states, “The Army’s acquisition workforce is not adequately staffed, trained, structured, or empowered to meet the Army needs of the 21st Century deployed warfighters” (Gansler, 2007, p. 2).

The Gansler Commission determined that:

Contract management is the essential post-award contracting function to ensure mission accomplishment, and to ensure that the Government obtains the required work on time and at the quality level called for by the contract. It is also an important control over fraud, waste, and abuse. (Gansler, 2007, p. 27)

The United States Government Accountability Office (GAO) has identified DoD Contract Management as “high risk” in its biennial report to Congress every year since 1992. GAO’s High-Risk Series lists government operations that are vulnerable to fraud, waste, abuse, and mismanagement or the operations need broad-based transformation to address major economy, efficiency, or effectiveness challenges (GAO-09-271, 2009). One of the reasons that GAO included DoD Contract Management on its list is the department’s CM personnel shortage (GAO-09-271, 2009, p. 73). GAO explains that:

Properly managing the acquisition of goods and services requires a workforce with the right skills and capabilities. DOD reports it has identified the competencies needed by its contracting officers but DOD officials acknowledged that more needs to be done to close skill gaps and to expand efforts to those who perform oversight or other key acquisition roles. (GAO-09-271, 2009, p. 73)

Ken Krieg, the former Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L) also believes that DoD AT&L faces a potential talent shortage. Krieg says that if the shortage is not effectively addressed, it will “have a detrimental impact on the responsiveness and quality of our acquisition

outcomes that support the national security mission” (AT&L, 2007). Subsequently, DoD AT&L, in its Human Capital Strategic Plan v. 3.0 established a goal to:

ensure DoD AT&L Components attract, develop, and retain a highly talented, motivated, and diverse workforce by implementing best practices and strategies to establish DoD and acquisition organizations as employers of choice. (AT&L, 2007, p. 36)

The public scrutiny of government contracts and increased demand on the on the contracting workforce as well as an inability to meet contracting needs have made it critical for DoD and Army contracting organizations to keep their turnover rates low and increase their CM process maturity. They can keep turnover low by obtaining, developing, and retaining the right human capital talents (AT&L, 2007, n.p.) and they can increase their CM process maturity by assessing its CM capabilities, identifying areas for improvement, and implementing efforts to improve.

### **C. EMPLOYEE TURNOVER**

Employee “turnover occurs when employees leave an organization and have to be replaced...[it is] related to job satisfaction and organizational commitment” (Mathis & Jackson, 2003, p. 78). One can classify turnover in a number of ways:

1. **Involuntary** – terminations for poor performance or work rule violations
2. **Voluntary** – employee leaves by choice
3. **Functional** – lower-performing or disruptive employees leave
4. **Dysfunctional** – key individuals and high performers leave at critical times
5. **Uncontrollable** – occurs for reasons outside the impact of the employer

6. **Controllable** – occurs due to factors that could be influenced by the employer

(Mathis & Jackson, 2003, pp. 78–79)

“Not all [employee] turnover is negative” (Mathis & Jackson, 2003, p. 79). Organizations benefit when turnover occurs for involuntary or functional reasons. Permitting poor performers to remain in the workplace can lead to other undesirable results. Voluntary and uncontrollable turnover may negatively affect organizations; however, they are typically due to employee’s personal reasons (for example, an employee relocating or the birth of a child) and the organization cannot do anything about that (Mathis & Jackson, 2003, p. 79).

The types of turnovers that organizations should be concerned about are dysfunctional and controllable. In these instances, the turnover is usually disruptive to the workplace, occurs at critical times, and more often than not, the employer could have retained a separating employee, had it responded appropriately to the employee’s concerns (Mathis & Jackson, 2003, p. 79).

#### **D. MEASURING TURNOVER RATE**

The first step for stakeholders to determine the impact of employee turnover in an organization is to calculate its turnover rate. There are varieties of methods to calculate employee turnover; however, one of the more widely used methods is a formula used by the U.S. Department of Labor (Mathis & Jackson, 2003, p. 89):

$$\frac{\text{Number of employee separations during the month} \times 100}{\text{Total number of employees at mid-month}}$$

(Mathis & Jackson, 2003, p. 90)

Stakeholders can use this formula to determine the turnover rate of an entire organization or they can use it to determine the turnover rate for specific demographics such as individual departments, locations, or key positions (Mathis & Jackson, 2003, p. 90).

An organization's Human Resources Department (HR) should calculate the turnover rate regularly and report it to management so that management can spot trends or potential problems and make adjustments as needed. Management should track key information to look for controllable or dysfunctional turnover patterns. Some examples are when large numbers of employees leave to work for the same organizations or when a number of employees leave for the same or similar reasons. Management should implement employee surveys with its employees and conduct exit interviews with separating employees to obtain this information (Mathis & Jackson, 2003, pp. 90-91).

Management should also measure the 'internal churn rate' (Sullivan, 2009). This is a measure of internal transfers from one department to others. High internal churn rates in particular areas may indicate problems with individual managers or career fields (Sullivan, 2009). Tracking this information allows management to identify its problem areas so it can plan and implement solutions to slow down its controllable and dysfunctional turnover rates.

## **E. THE COST OF TURNOVER**

High turnover in an organization can be an expensive problem. Direct costs associated with recruiting and retaining employees, such as marketing, advertising, salary, benefits, and training, are recurring costs for organizations with a high employee turnover rate. The costing model shown in Figure 1 illustrates one simplified method of determining turnover costs (Mathis & Jackson, 2003, p. 90).

<b>Simplified Turnover Costing Model</b>	
Job Title _____	
A. Typical annual pay for job _____	_____
B. Percentage of pay for benefits times (x) annual pay _____	_____
C. Total employee annual cost (add A+B) _____	_____
D. How many employees voluntarily quit in this job in the past 12 months? _____	_____
E. How long does it take one employee to become fully productive (in months)? _____	_____
F. Per person turnover cost: (Multiply $E \div 12 \times C \times 50\%$ *) _____	_____
G. Annual Turnover cost for this job: (Multiply $F \times D$ ) _____	_____
<b>*Assumes 50% productivity throughout the learning period (E).</b>	

Figure 1. Simplified Turnover Costing Model (From Mathis & Jackson, 2003, p. 90)

One example of determining costs of turnover using the simplified model is as follows:

In [the] model, if a job pays \$20,000 (A) and benefits cost 40% (B), then the total annual cost for one employee is \$28,000. Assuming 20 employees quit in the previous year (D) and that it takes three months for one employee to be fully productive, the calculation in (F) results in a per person turnover cost of \$3,500. Overall, the annual turnover costs would be \$70,000 for the 20 individuals who left. (Mathis & Jackson, 2003, p. 90)

More detailed and sophisticated turnover costing models take into account costs for hiring, training, productivity, and separation (Mathis & Jackson, 2003, p. 91).

Organizations might also consider other costs that are more difficult to measure, intangible costs, such as customer goodwill, reputation or image (Carter, 2008, p. 58). Organizations with an unstable workforce may have difficulty accomplishing its mission successfully and as a result, its brand may suffer which can cost it business. Additionally, organizations that fail to retain its employees may suffer from “knowledge gaps or brain drains” (Harrison, R., 2008, p. 49) as it loses its intellectual assets (Harrison, J.S., 2008, p. 58).

Heinrich von Pierer, CEO of the German industrial powerhouse Siemens, has stated, “Between sixty and eighty percent of the value-added we generate is linked directly to knowledge—and that proportion is growing. (Harrison, J.S., 2008, p. 58)

All of these direct and indirect costs associated with employee turnover affect an organization’s total cost of ownership (Harrison, J.S., 2008, p. 58). The total cost of ownership for an organization with a high turnover rate, is much higher than one that does not. Organizations with high turnover rates incur additional recurring costs in the form of inefficiencies each time they replace an employee during the time it takes for the new employee work his or her way through a learning curve to become fully productive. Organizations with a low turnover rate assume lower ownership costs because its employees function more efficiently for longer periods (Harrison, J.S., 2008, p. 58).

It is critical for NCRCC to measure and manage its employee turnover, particularly dysfunctional and controllable turnover, in order for it to meet its mission in support of the nation’s warfighters and to protect its brand. A stable NCRCC workforce should perform CM activities more efficiently and effectively than if it was not stable. If NCRCC retains its employees, it will not have to endure a workforce that is continually going through a process learning curve, assuming it has standardized CM processes in place and requires its employees to utilize them. The next section will discuss standardized processes, specifically CM process capability.

## **F. CONTRACT MANAGEMENT PROCESS CAPABILITY**

Contract Management (CM) is “the art and science of managing a contractual agreement(s) throughout the contracting process” (Garrett & Rendon, 2005a, p. 48). Process Capability is “inherent or natural behavior of a process from which all sources of instability (random variability) have been eliminated” (BusinessDictionary.com, 2009). According to Rendon, leading organizations consider CM organizational learning and process improvement initiatives as best practices and focus on core processes, specifically process competence and



process capability. Process capability maturity is one indicator of organizational learning (Rendon, 2009, p. 8).

NCRCC, in particular, can benefit from assessing its CM process maturity and using the data to identify lessons learned as well as key process areas that may need additional emphasis, such as personnel, resources, and training needs. Armed with this information, NCRCC can implement best practices and strategies to improve its CM process capability so that it can maintain a competitive advantage over other contracting organizations within NCR, in terms of successful performance and protect its brand.

Generally, organizations use maturity models to assess, measure, and improve their process capability maturity (Rendon, 2009, p. 9). An organizational capability maturity level is its “level of organizational capability created by the transformation of one or more domains of an organization’s processes” (Garrett & Rendon, 2005a, p. 48).

Some well-known process maturity models include the Software Engineering Institute’s Capability Maturity Model (SEI-CMM), Kerzner’s Project Management Maturity Model (PMMM), Project Management Solutions, Inc.’s Project Management Maturity Model, People Capability Maturity Model, and the Berkley Project Management Process Maturity (PM2) Model (Garrett, 2007, p. 215). These models assess project management processes rather than CM processes but they “reflect and evolutionary increase in process maturity focused on continuous improvement and adoption of lessons learned and best practices” (Garrett, 2007, p. 217). One important characteristic of these maturity models is that they focus on established project management methods and processes that the project management profession accepts (Garrett, 2007, p. 219).

The Contract Management Maturity Model © (CMMM©) uses a similar approach to analyze CM processes. It is “a research-based systematic assessment tool designed to evaluate an organization’s overall CM process capability and to benchmark organizational CM policies, processes, and

practices” (Rendon, 2009, p. 10). The CMMM © survey questions focus on the organization’s adoption of CM best practices in the areas of process strength, management support, process integration, and process measurement. Organizations interested in assessing their CM process capability maturity can apply the model by first administering a 62-question survey to obtain the organization’s CM process capability data. The CMMM© survey uses a purposeful sampling method. Researchers administer the survey only to individuals who are fully qualified contract specialists or contracting officers and have knowledge of the organization’s CM processes. The survey assesses six key process areas: *Procurement Planning*, *Solicitation Planning*, *Solicitation*, *Source Selection*, *Contract Administration*, and *Contract Closeout*.

*Procurement Planning* is “the process of identifying which business needs can be best met by procuring products or services outside the organization. This process involves determining whether to procure, how to procure, what to procure, how much to procure, and when to procure” (Garrett & Rendon, 2005a, p. 55). Procurement planning also includes conducting market research as described in Federal Acquisition Regulation (FAR) Part 10, requirements analysis as described in FAR Part 11, determining the appropriate procurement method as described in FAR Parts 13, 14, and 15, and selecting the contract type as described in FAR Part 16 (Rendon, 2009, p. 16).

*Solicitation Planning* is “the process of preparing the documents needed to support the solicitation. This process involves documenting program requirements and identifying potential sources” (Garrett & Rendon, 2005, p. 55). Solicitation planning also includes documenting the requirement using a Statement of Work (SOW), Performance Work Statement (PWS), or Statement of Objectives (SOO) developing the solicitation package using the uniform contract format found in FAR Part 14 for Sealed Bidding and FAR Part 15 for Contracting by Negotiations. Solicitation planning also includes selecting contract terms and conditions, and identifying potential sources (Rendon, 2009, p. 16).

*Solicitation* is “the process of obtaining information (bids or proposals) from prospective sellers on how project needs can be met” (Garrett & Rendon, 2005a, p. 55). The solicitation process area also includes conducting industry conferences, synopsizing requirements as described in FAR Part 5, issuing solicitations and amending them as needed (Rendon, 2009, p. 17).

*Source Selection* is “the process of receiving bids or proposals and applying evaluation criteria to select a provider” (Garrett & Rendon, 2005a, p. 55). Source selection also includes negotiating contract terms and conditions as well as selecting contractors. Depending on the requirement, this could mean following the sealed bidding procedures set forth in FAR Part 14 or following a contracting by negotiations approach as set forth in FAR Part 15. This can range from selecting the lowest priced, technically acceptable offeror to selecting the offer determined to be the best value by using a trade-off process (Rendon, 2009, p. 18).

*Contract Administration* is “the process of ensuring that each party’s performance meets contractual requirements” (Garrett & Rendon, 2005a, p. 55). Contract administration includes monitoring and measuring contractor performance as set forth in FAR Part 42, managing the payment process as specified in FAR Part 32, and managing the contract change process as described in FAR Part 43 (Rendon, 2009, p. 18).

*Contract Closeout* is “the process of verifying that all administrative matters are concluded on a contract this is otherwise physically complete. This involves completing and settling the contract; including resolving any open items (Garrett & Rendon, 2005a, p. 55). Contract closeout includes ensuring and documenting that the contractor’s work is complete and resolving issues as described in FAR Part 4 (Rendon, 2009, p. 18).

The next step in determining CM maturity is to assign a maturity level for each key process area. The survey questions require responses that reveal the extent to which the respondent believes its organization executed or

implemented each of the key process areas by using a Likert scale response protocol. This structure requires respondents to answer with the extent to which they agree or disagree with statements regarding the CM key process areas. The survey allows the respondents six possible answers each tied to a numerical point score: *Never* (1), *Seldom* (2), *Sometimes* (3), *Usually* (4), *Always* (5), and *I Don't Know* (0) (Garrett, 2007, p. 231). These allow researchers to assess the maturity level for each process areas: *Ad Hoc*, *Basic*, *Structured*, *Integrated*, or *Optimized* (Garrett, 2007, p. 230-1).

*Ad Hoc* (Level 1) is the lowest CM process maturity level. Organizations operating at this level acknowledge that CM processes exist and that they are accepted and practiced throughout various industries. Management understands the benefit and value of using CM processes. However, these organizations do not have organizational-wide established basic CM processes. Further, some established CM processes may exist within the organization but CM personnel apply them only on an ad-hoc and sporadic basis. No one holds managers and CM personnel accountable for adhering to, or complying with, any processes or standards (Garrett & Rendon, 2005a, p. 53).

*Basic* (Level 2) is the second CM process maturity level. Organizations that operate at this level have some established basic CM processes and standards within the organization but management does not require its personnel to use them on all contracts. CM personnel apply standards only to selected complex, critical, or high-visibility contracts. These organizations have developed some formal documentation for their established CM processes and standards but they do not consider their processes or established standards institutionalized throughout the entire organization. Organizational leaders have not implemented a policy that requires personnel to use established CM processes consistently other than on the required contracts (Garrett & Rendon, 2005a, p. 53).

*Structured* (Level 3) is the third CM process maturity level. Organizations operating at this level have CM processes and standards fully established, institutionalized, and mandated throughout the entire organization. These organizations have developed formal documentation for their CM processes and standards and have automated some of them. *Structured* organizations permit their personnel to tailor mandated processes and documents, in consideration of the unique aspects of each contract. Organizational leaders are involved in providing guidance, direction, and approval of key contracting strategy, decisions, related contract terms and conditions, and CM documents (Garrett & Rendon, 2005a, p. 53).

*Integrated* (Level 4) is the fourth CM process maturity level. Organizations operating at this level include the procurement project's end-user as integral members of the procurement team. They integrate basic CM processes with other organizational core processes, such as cost control, schedule management, performance management, and systems engineering. Management in *Integrated* organizations uses efficiency and effectiveness metrics to make procurement-related decisions. Further, management understands its role in the procurement management process and executes the process well (Garrett & Rendon, 2005a, 2005, p. 53).

*Optimized* (Level 5) is the highest possible CM process maturity level. Organizations operating at this level periodically evaluate their CM processes using efficiency and effectiveness metrics. They implement continuous process improvement efforts to improve their CM process and they implement lessons learned and best practice programs to improve CM processes, standards, and documentation. They also implement procurement process streamlining initiatives as part of their process improvement program (Garrett & Rendon, 2005a, 2005, p. 53).

The responses to the CMMM© survey questions are calculated and the numerical scores are then converted to the appropriate maturity level. Organizations can then plot the CM process maturity levels for each key process on the Contract Management Maturity Model in Table 1.

<b>CONTRACT MANAGEMENT MATURITY MODEL©</b>						
<b>Maturity Level</b>	<b>Contract Management Key Process Areas</b>					
	Procurement Planning	Solicitation Planning	Solicitation	Source Selection	Contract Administration	Contract Closeout
Level 5 Optimized						
Level 4 Integrated						
Level 3 Structured						
Level 2 Basic						
Level 1 Ad-Hoc						

Table 1. Contract Management Maturity Model (From Garrett & Rendon, 2005a, p. 54)

Based on the calculated CM process maturity levels, organizational leadership can analyze the results and determine opportunities for process capability improvement and knowledge sharing within the organization.

## **G. THE PURPOSE OF MEASURING CM PROCESS MATURITY**

CM process maturity data provides a “roadmap” to assist identifying areas that may need additional emphasis such as personnel, resources, and training. “The true value and primary purpose of the CMMM© is the continuous improvement of the organization’s CM process for buying” (Garrett & Rendon, 2005a, p. 87). Organizations that assess their CM periodically can monitor maturity improvement and “increases the organization’s competitive advantage” (Rendon, 2009, p. 24).

Rendon was the first to apply the maturity model concept to the CM process. Subsequently, researcher have successfully applied the CMMM© at Air Force commands, Naval commands, international organizations and commercial

industries, such as Hill Air Force Base, Naval Facilities Engineering Command, United Nations and defense contractors. The first Army installation to apply the CMMM© is the U.S. Army Joint Munitions and Lethality Contracting Center, Army Contracting Command, Picatinny Arsenal in September 2009 (Puma & Scherr, 2009, p. 33).

## **H. SUMMARY**

Generally, contracting organizations' HR should track and report its turnover rate regularly and look for trends that indicate a pattern of key employees departing for reasons that management could have prevented. The organization's total cost of ownership consisting of tangible or direct costs and intangible costs such as the organization's reputation or loss of intellectual assets can influence the organization's ability to perform its mission. It is important for NCRCC leadership and other government CM organizations to focus on managing turnover. This is one reason why GAO identified DoD Contract Management as a "high risk" area (GAO-09-271, 2009, p. 73). Additionally, the Under Secretary of Defense for Acquisition, Technology, and Logistics, concerned about a potential talent shortage, is emphasizing the importance of DoD AT&L's ability to attract, develop and retain talented CM personnel (AT&L, 2007, p. 36).

This chapter provided information with regard to the current government contracting environment that demonstrates why it is important for contracting organizations to measure both their employee turnover rate and CM process maturity level and use the results to identify areas for improvement. Next, it identified various turnover types, explained how to calculate turnover as well as how the costs associated with it impact an organization. This chapter also explained why analyzing CM process capability will help NCRCC, described the purpose of assessing CM process capability maturity, presented the Contract

Management Maturity Model © (CMMM), and explained how and why CM process maturity is measured. The next chapter will introduce NCRCC as a case study for assessing turnover and CM process maturity.



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### **III. NATIONAL CAPITAL REGION CONTRACTING CENTER**

#### **A. INTRODUCTION**

This chapter provides an overview of the National Capital Region Contracting Center and its relationship to the Army Material Command and the Army Contracting Command. Additionally, this discusses NCRCC's two subordinate commands, the Contracting Center of Excellence and the Information Technology, E-commerce and Commercial Contracting Center, their missions, organizational structures, and workforce makeup. This chapter also explains why NCRCC is suitable for this study and includes a chapter summary.

#### **B. THE U.S. ARMY MATERIAL COMMAND**

The U.S. Army Material Command (AMC) provides “material readiness—technology, acquisition support, materiel development, logistics power projection, and sustainment—to the total force, across the spectrum of joint military operations” for the army (AMC, 2009). AMC headquarters is currently located in Fort Belvoir, VA but will relocate to Redstone Arsenal, AL by the summer of 2011 as the result of a 2005 BRAC decision. AMC also has 149 other locations worldwide, in over 48 states and 55 countries. The AMC workforce consists of more than 66,000 military and civilian employees, many whom specialize in weapons development, manufacturing, and logistics (AMC, 2009). AMC's organizational structure is set forth in Figure 2.

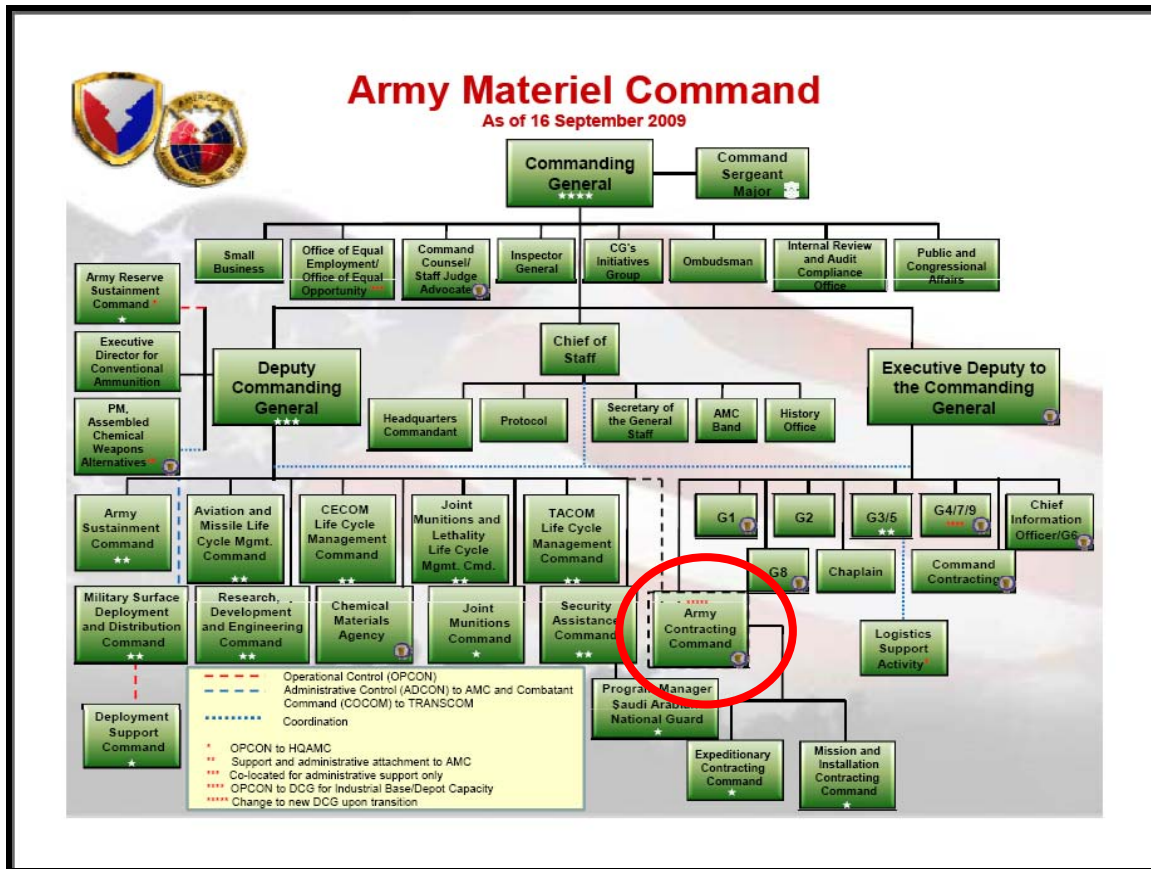


Figure 2. AMC Organizational Structure (From AMC, 2009)

### C. THE U.S. ARMY CONTRACTING COMMAND

As marked on Figure 2, the Army Contracting Command (ACC) is a subordinate command of AMC. ACC provides “soldiers, civilians and contractors support the warfighter worldwide, through the acquisition of goods and services vital to the Soldier’s mission and well-being” (ACC, 2009). ACC performs the majority of the contracting work for the Army. It provides policy, procedures, career guidance and support to the contracting centers dedicated to the AMC Life Cycle Management Commands and Program Executive Office/Program Manager missions.

[illegible]

(ITEC4) to form the NCRCC. NCRCC's Principal Assistant Responsible for Contracting (PARC) also serves as the ITEC4 Director. NCRCC's organizational structure is set forth in Figure 4.

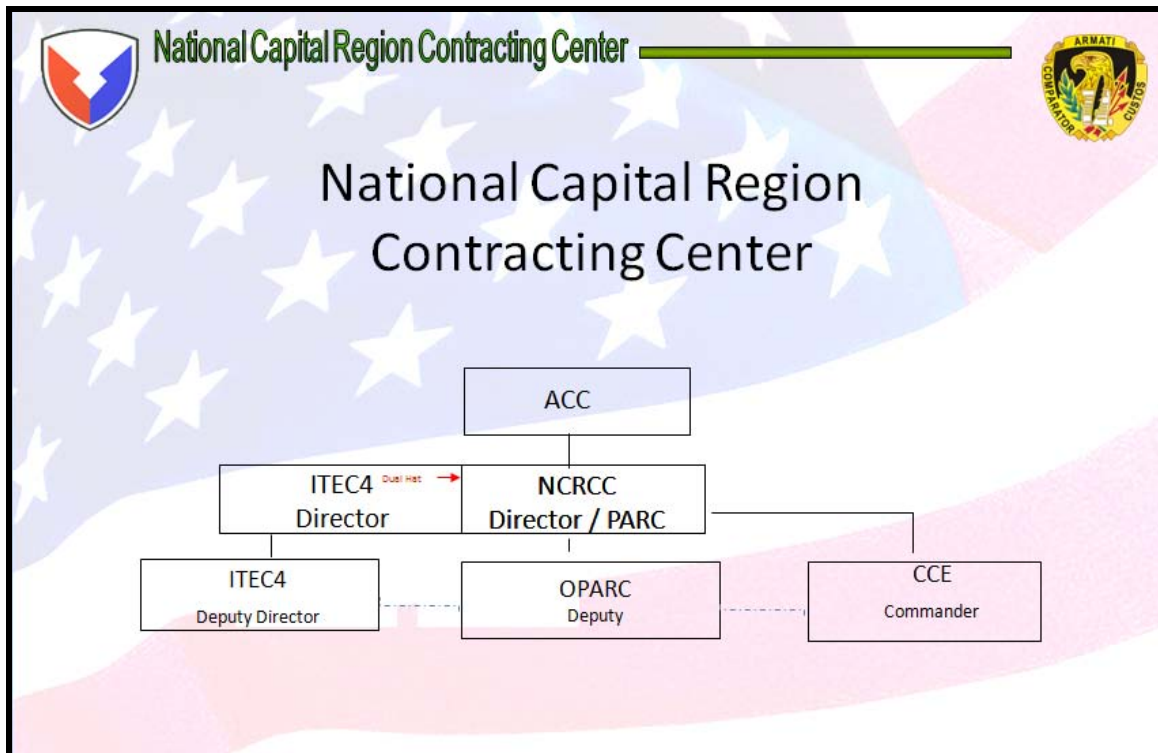


Figure 4. NCRCC Organizational Structure (From NCRCC Town Hall Meeting, 2009, p. 10)

The U.S. Army Contracting Center of Excellence (CCE), a subordinate contracting center within NCRCC, provides contracting support to the Army Secretariat and the Army Staff. Its mission is “to provide the best possible, customer-focused, contracting support and service throughout the National Capital Region” (CCE, 2009). Among other things, CCE provides telecommunication equipment and services, advertising, training, and studies. CCE also manages the DoD Purchase Card Program for the National Capital Region customers (CCE, 2009). CCE's organizational structure is set forth in Figure 5.

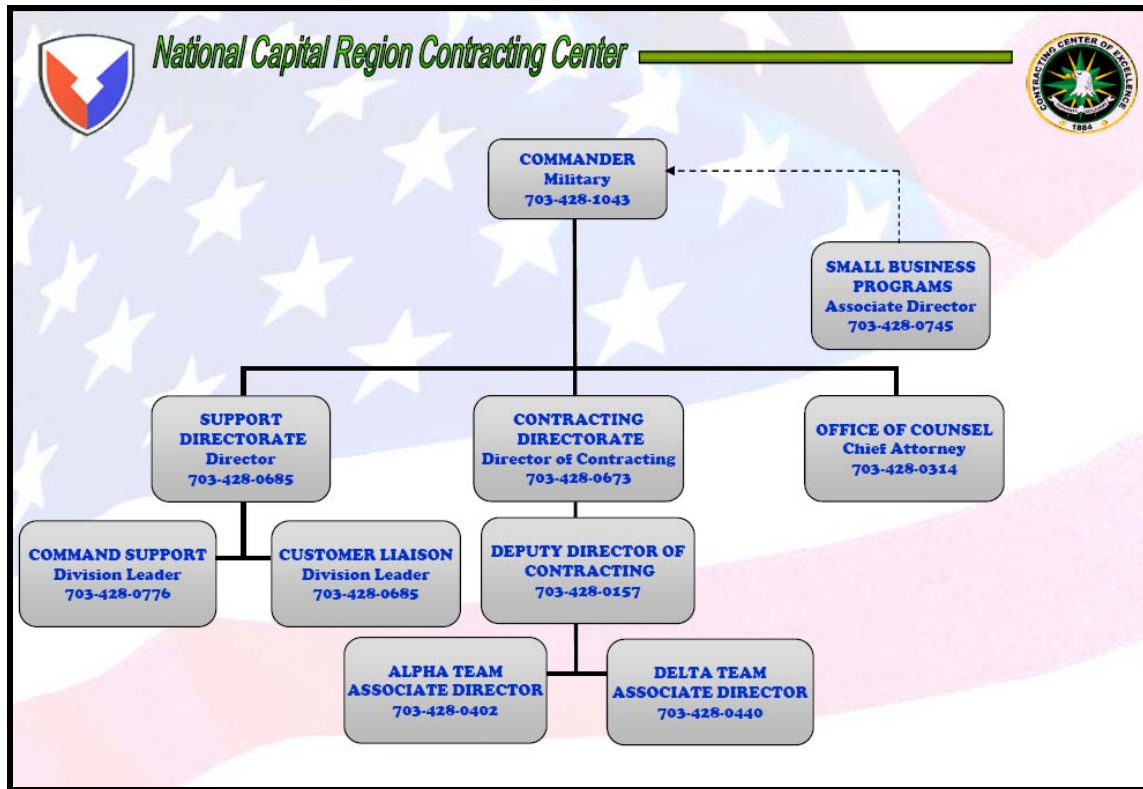


Figure 5. CCE Organizational Structure (From CCE, 2009)

The U.S. Army Information Technology, E-Commerce, and Commercial Contracting Center (ITEC4), NCRCC's second subordinate contracting center, provides worldwide information technology contracting support and procures enterprise information technology support and equipment for Army and other Department of Defense (DoD) activities. Its primary mission is "to establish master contracts to acquire information technology products and services for the Army Enterprise" (ITEC4, 2009). ITEC4 has four procurement divisions in two locations: Alexandria, VA and Fort Huachuca, AZ. The Alexandria, VA location is ITEC4 headquarters and it supports the Army Chief Information Officer (CIO/G6), the Program Executive Officer, and the Enterprise Information Systems (PEO EIS). ITEC4's Fort Huachuca, AZ location, also known as "ITEC4 West" or "Division C," supports the U.S. Army Network Enterprise Technology



Command (NETCOM) and Fort Huachuca Garrison. ITEC4's organizational structure is set forth in Figure 6.

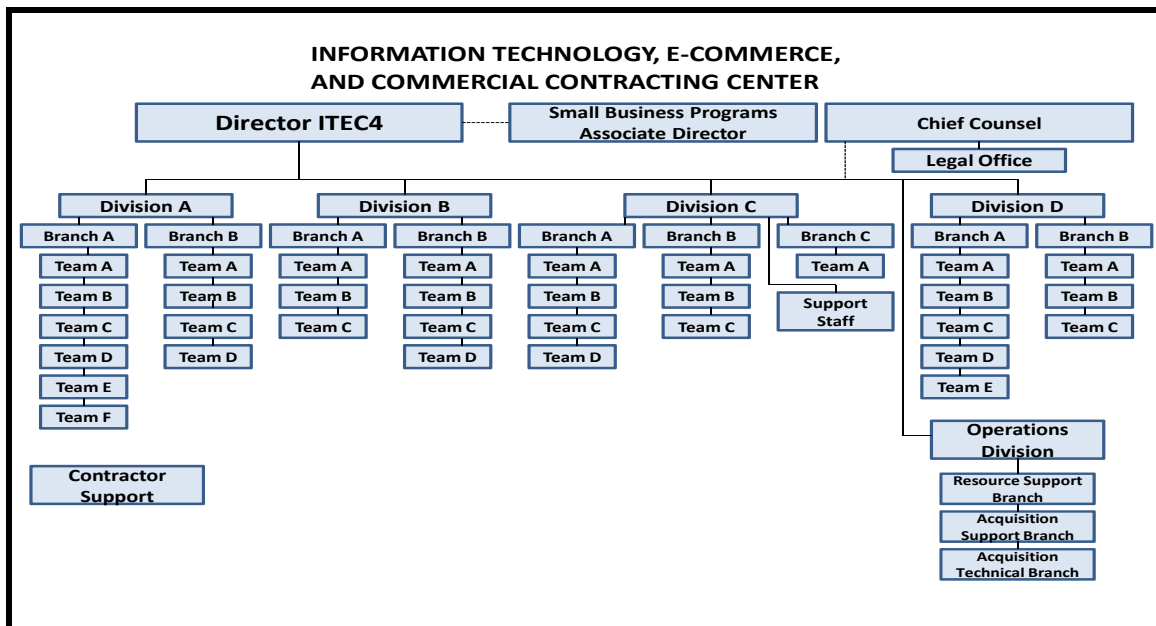


Figure 6. ITEC4 Organizational Structure (From Public Folders, 2009)

NCRCC's contracting workforce consists of contract specialists, contracting officers, managers and senior leaders. The total number of NCRCC employees grade GS-12 and above during April through September 2008 is 243. One hundred twelve (112) of those employees belonged to CCE and 131 belonged to ITEC4. The total number of NCRCC employees grade GS-12 and above during October 2008 through March 2009 is 231. One hundred (100) of those employees belonged to CCE and 131 belonged to ITEC4. This total includes employees supporting both core and reimbursable customers and ITEC4 West employees.

The NCRCC contracting workforce also is supplemented with interns and fellows. The Army Career Training & Education Development System (ACTEDS) program recruits and funds positions for Department of the Army (DA) interns throughout worldwide organizations. ACC recruits local interns for specific authorized positions within the command (ACC, 2009, n.p.). Fellows are

participants in the Competitive Development Group/Army Acquisition Fellowship (CDG/AAF) Program, a three-year developmental program designed to develop future Army acquisition leaders (USAASC, 2009).

NCRCC employees occupy positions from two different pay plans. CCE employees work under the National Security Personnel System (NSPS), a performance-based pay plan (NSPS, 2009). ITEC4 employees work under two pay plans. ITEC4 managers work under the NSPS plan and nonsupervisory employees work under the traditional Federal Government General Schedule (GS) plan, a length of service based pay plan (OPM Pay Plans, 2009). Any reference to GS employees throughout the remainder of this study shall also apply to equivalent NSPS employees.

During fiscal year 2009, CCE awarded 3663 actions totaling approximately \$1.2 billion. Its prior fiscal year totals were 5,860 actions and \$1.7 billion dollars. ITEC4 awarded 6526 actions totaling approximately \$2.5 billion during fiscal year 2009. Prior fiscal year totals for ITEC4 were 6,999 actions totaling \$2.6 billion (SitRep, 2009).

NCRCC is appropriate for this study because CCE and ITEC4 were separate, unrelated contracting organizations until January 2009 when ACC combined them to form NCRCC. Since the relationship between these two subordinate contracting centers is new, they are located in separate buildings and as explained above, their organizational structures are different, their employees occupy different pay plans, they provide different types of contracting support, and their contract processes are different. .

Currently, the only common thread that exists between the two centers is the NCRCC Office of the Principal Assistant Responsible for Contracting (OPARC) that stood up concurrently with the formation of NCRCC. NCRCC OPARC responsibilities include providing policy support, assessing organizational efficiency and effectiveness in performing procurement functions, and coordinating contracting and acquisition management training. The results



of this study can assist the OPARC staff by serving as a baseline assessment for employee turnover data and CM process improvement.

## **E. SUMMARY**

NCRCC is a newly formed contracting center that falls within AMC and ACC. It consists of two subordinate contracting centers, CCE and ITEC4 that have different organizational structures, employee pay plans, and perform different types of services. Since NCRCC is in its infancy, it will benefit from this baseline assessment. This chapter describes NCRCC, its major commands, and its subordinate commands. It also explains why NCRCC is suitable for this study. The next chapter will discuss the results of the turnover analysis and the CM process maturity analysis.

## **IV. ASSESSMENT RESULTS, DATA ANALYSIS, AND RECOMMENDATIONS**

### **A. INTRODUCTION**

The purpose of this chapter is to provide the results of the NCRCC turnover analysis and the results of the CM process maturity analysis. First, this chapter presents the NCRCC turnover rate and the costs associated with it as well as NCRCC contract specialist's experience, qualifications and credentials. Second, it provides recommendations for managing NCRCC turnover. Lastly, this chapter presents CCE's and ITEC4's CM process maturity level determined by using the CMMM © and provides recommendations for improving CM process maturity.

### **B. NCRCC'S EMPLOYEE TURNOVER RATE**

Aside from the turnover calculations presented in this study, NCRCC stakeholders have not determined its employee turnover rate for the contracting center as a whole. CCE HR informed the researcher that it calculates turnover for its subordinate contracting center but does not calculate turnover for specific demographics as recommended by the authors of Human Resources Management. ITEC4 does not calculate its employee turnover rate at all.

Table 2 illustrates the average monthly NCRCC contract specialist turnover rate for April 2008 through March 2009 as determined for this research. The turnover rate data obtained from NCRCC's HR used to calculate the turnover rate and set forth in Appendix 1, shows that the average turnover for the period observed is approximately 2.99.

<b>NCRCC Turnover Data</b> <b>Grade GS-12 and above (or NSPS equivalent) Nonsupervisory</b> <b>(April 2008 – March 2009)</b>						
<b>Month</b>	<b>Separations</b>	<b>Total Billets</b>	<b>Vacant Billets</b>	<b>New Hires</b>	<b>Total Employees (Total Billet – Vacant Billets + New Hires)</b>	<b>Monthly Turnover (Separations × 100 / Total Employees)</b>
April 2008	7	204	68	9	145	<b>3.80</b>
May 2008	5	204	65	3	142	<b>2.72</b>
June 2008	5	204	68	2	138	<b>2.72</b>
July 2008	8	204	67	1	138	<b>4.35</b>
August 2008	8	204	80	11	135	<b>4.35</b>
September 2008	6	204	74	3	133	<b>3.26</b>
October 2008	4	192	71	5	126	<b>2.17</b>
November 2008	3	192	71	2	123	<b>1.63</b>
December 2008	4	192	67	5	130	<b>2.17</b>
January 2009	7	192	69	5	128	<b>3.80</b>
February 2009	3	192	76	8	124	<b>1.63</b>
March 2009	6	192	69	9	132	<b>3.26</b>
			<b>Average monthly turnover:</b>			<b>2.99</b>

Table 2. NCRCC Turnover Data

Turnover rates vary among industries and can range from zero employees to an entire demographic (Mathis & Jackson, 2003, p. 90). Organizations can determine if their turnover rate is high or low by comparing it to its competitors or to its own historical turnover data.

According to the Bureau of Labor Statistics (BLS) data, the Federal Government's average employee turnover for the period observed is 1.29. Figure 7 illustrates the NCRCC and Federal Government turnover trend lines for

April 2008 through March 2009. The trend line for NCRCC turnover is consistent with the Federal Government's trend line from May 2008 through March 2009, although it is more than twice that of the Federal Government's turnover rate for the same period (JOLTS, 2009).

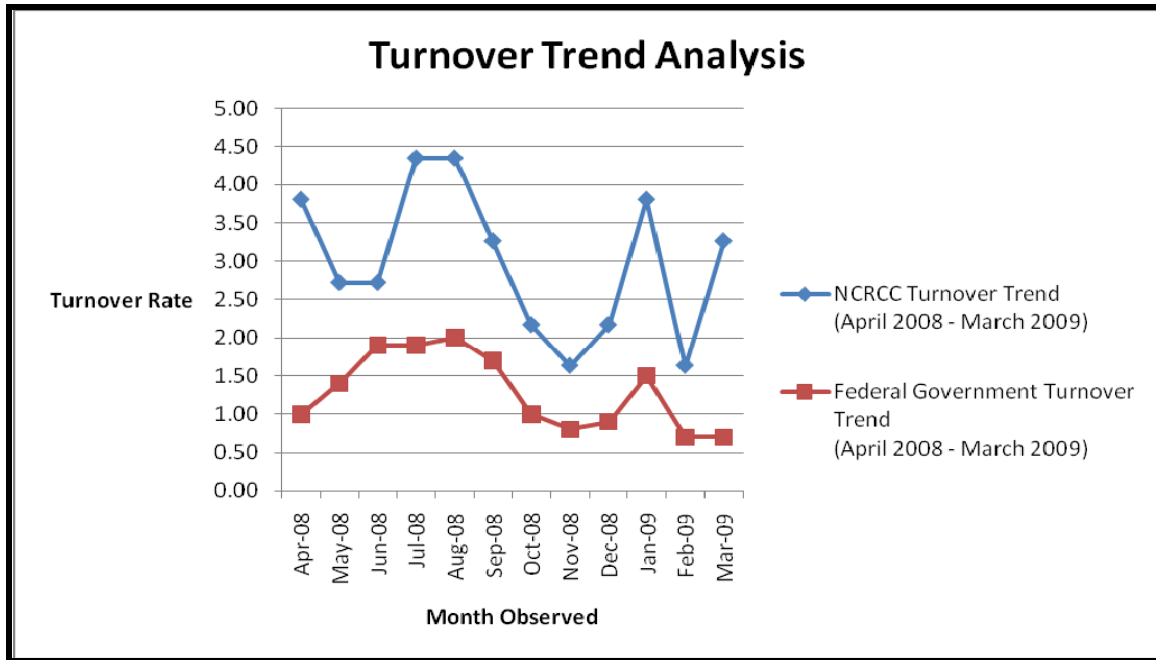


Figure 7. Turnover Trend Analysis (From JOLTS, 2009)

Despite the NCRCC turnover rate's relationship to the Federal Government's rate, it remained less than 5.0 for the entire period observed. The BLS Job Openings and Labor Turnover Survey (JOLTS) describe turnover rates below 3.2 as 'low' (JOLTS, 2009). Based on this information, the NCRCC average turnover for the period observed can be considered low.

### C. NCRCC'S COST OF TURNOVER

Although NCRCC's turnover rate is considered low, the NCRCC stakeholders might still calculate the costs associated with this turnover rate and determine its impact on the organization. Figure 8 calculates estimated costs associated with NCRCC's turnover rate using the Simplified Turnover Costing Model in Figure 1.

The benefits costs (B), length of learning curve (E), and percentage of productivity (F) may vary and NCRCC stakeholders can substitute these numbers with information unavailable for this research. The numbers used in this calculation are conservative averages as recommended in *Human Resource Management* (Mathis & Jackson, 2003, p. 90).

A.	Annual pay for GS-13 Step 1 (OPM Salary Table, 2009):	\$ 86,927
B.	40% for benefits × annual pay:	\$ 34,770
C.	Total employee annual cost (A + B):	\$121,697
D.	Employee departures over 12 months observed:	73
E.	Learning curve:	3 months
F.	Per person turnover cost ( $E \div 12 \times C \times 50\%$ )*:	\$15,212
G.	Annual turnover cost ( $F \times D$ ):	\$1,110,476
*Assumes 50% productivity throughout the learning period (E).		

Figure 8. Cost of NCRCC Turnover April 2008–March 2009

Figure 8 shows that NCRCC's turnover cost for April 2008 through March 2009 is approximately \$1.1 million. Additional costs that NCRCC stakeholders should consider include the intangible costs discussed in Chapter II such as possible damage to the NCRCC brand and loss of intellectual assets.

#### **D. NCRCC'S CONTRACT SPECIALIST EXPERIENCE, QUALIFICATIONS, AND CREDENTIALS**

Employee qualifications and credentials substantiate NCRCC's intellectual data. Tracking this employee data helps stakeholders measure the intangible costs associated with turnover. Stakeholders can also use this data to link the impact of turnover to CM process capability maturity.

Tracking employee experience is one approach to measuring the intangible costs. However, NCRCC HR does not maintain records with regard to contract specialist experience nor does any other branch or division within NCRCC. NCRCC HR managers explained that this data cannot be determined based on HR records because many NCRCC employees are new to the

Government so their previous experience is not in the HR record system. Additionally, the current HR record system did not exist prior to the year 2002, so complete data is not available for employees who have years of experience within the center. NCRCC interns and fellows have no experience to track, and NCRCC no longer has access to, or maintains personnel data for employees who have separated from the center. Subsequently, it is not possible for HR to determine the average number of years of contracting experience for GS-1102 employees hired or those who separated during the period observed for this research.

Another approach to measuring the intangible costs of employee turnover is to examine NCRCC's employee credentials. The Defense Acquisition Workforce Improvement Act (DAWIA) enacted in 1990, requires DoD to establish formal career paths for individuals who pursue careers in acquisition. DoD has an established formal certification process that applies to all DoD acquisition professionals, to include NCRCC contract specialists (DAWIA, 2009).

NCRCC requires its interns and fellows to have a DAWIA Level I certification for grades GS-5 and G-7. These employees must have a minimum of 24 semester hours in accounting, law, business, finance, contracts, purchasing, economics, industrial management, marketing, quantitative methods, or organization and management and a baccalaureate degree in any field of study along with 1 year of contracting experience and required acquisition and functional training (DAWIA Level I, 2009).

NCRCC requires its interns and fellows grades GS-9 and GS-11 and contract specialists grade GS-12 to have a DAWIA Level II certification. These employees must have a minimum of 24 semester hours in accounting, law, business, finance, contracts, purchasing, economics, industrial management, marketing, quantitative methods, or organization and management and a baccalaureate degree in any field of study along with 2 years of contracting experience and required acquisition and functional training (DAWIA Level II, 2009).

NCRCC requires its contract specialists, grades GS-13 and GS-14 to have a DAWIA Level III certification. These employees must have a minimum of 24 semester hours in accounting, law, business, finance, contracts, purchasing, economics, industrial management, marketing, quantitative methods, or organization and management and a baccalaureate degree in any field of study along with 4 years of contracting experience and required acquisition and functional training (DAWIA Level II, 2009).

Further, the U.S. Office of Personnel Management (OPM) also authorizes exceptions for employees that qualify for grandfathering based on years of experience. OPM also permits waivers for senior procurement officials (OPM Qualification Standard, 2009).

According to NCRCC's HR, all of the contract specialists included in this research, with the exception of an insignificant number of grandfathered employees, possess a bachelor's or advanced degree and have at least 24 business credits. All but one CCE employee meets the required certification level in accordance with OPM standards (OPM Qualification Standard, 2009, n.p.). DAWIA certification is not currently available for NCRCC contractor employees. Contract specialist interns are all working towards obtaining certification.

A high turnover rate for these highly-educated and fully-trained employees could impede NCRCC's ability to perform CM processes at a high maturity level. However, since the turnover rate for these employees is comparatively low and the workforce is stable, they should be performing CM processes at a high maturity level, if those processes are standardized and management requires employees to use them.

## **E. TURNOVER RECOMMENDATIONS**

People are an agency's most important organizational asset. An organization's people define its character, affect its capacity to perform, and represent the knowledge-base of the organization. As such, effective strategic human capital management approaches serve as the cornerstone of any serious change management initiative. (GAO-02-373SP, p. 4, 2009)

NCRCC can best manage its 'most important organizational asset' and its reputation or image – its brand, by managing employee turnover, tracking total cost of ownership, retaining employees who possess key skills, controlling employee separations, conducting follow-up assessments and adjusting its efforts as appropriate.

Although NCRCC does not appear to have a problem with turnover currently, the NCRCC HR should periodically measure and track employee turnover for the entire contracting center, as well as for the subordinate contracting centers and specific divisions and branches in order to track the internal churn rate. This will permit NCRCC leadership to track patterns and identify potential problem areas, particularly with regard to controllable and dysfunctional turnover rates (Mathis & Jackson, 2003, pp. 90–91). NCRCC leadership should implement employee surveys with its employees and conduct exit interviews with separating employees to “diagnose specific problem areas, identify employee needs or preferences and reveal areas in which HR activities are well received or viewed negatively” (Mathis & Jackson, 2003, pp. 90–91). By obtaining this information early, the leadership will have the opportunity to plan and implement solutions before problems become critical.

NCRCC leadership should also measure and track how employee turnover impacts its total cost of ownership (Harrison, J.S., 2008, p. 58). NCRCC can track its tangible costs using a costing model similar to the one set forth in Chapter II and taking into account other direct costs of recruiting and retaining employees, such as marketing, advertising, salary, benefits, and training. These



costs are recurring for organizations with a high employee turnover rate (Mathis & Jackson, 2003, p. 90). The leadership should also take into account intangible costs such as customer goodwill, reputation and image (Carter, 2008, p. 58).

NCRCC leadership should focus on retaining its most talented CM personnel in order to lower its intangible costs. Retaining top performers allows the contracting center to keep its employee turnover rate low. Expending resources to retain poor performers will not protect the NCRCC brand and may harm it instead. Leadership should aim to select the right people in the first place and hire “people with the talent, ability, and smarts to work in almost any position even if you don't currently have the "best" match available” (Heathfield, 2009).

Establishing a section or division responsible for maintaining employee qualifications, credentials, and track career development is one approach to identifying top NCRCC top performers. Once leadership identifies these individuals, it can strategically place them in positions that will help the center to meet its needs.

Leadership should aim to retain experienced CM personnel to help protect NCRCC’s intellectual assets (Harrison, J.S., 2008, p. 58). These employees should document lessons learned, and best practices, and work with newer employees to transfer institutional knowledge to them.

NCRCC leadership should pay particular attention to CM personnel who possess business and organizational skills beyond the traditional CM skills. These individuals not only have working knowledge of the FAR and can apply it, but possess the following key skills: “good interpersonal communication, customer focus, decision-making ability, analytical and negotiation skills, conflict-resolution skills, flexibility, problem-solving skills, the ability to influence and persuade, and computer literacy” (Nelson, S., 2006, p 43). These employees are also “accomplished at articulating and conveying personal and organizational values and skilled in organizational politics, networking, and follow-through as aides to “getting things done” effectively, efficiently, and with business acumen”

(Nelson, S., 2006, p 43). Developing and retaining employees with these skills will enhance the NCRCC brand.

NCRCC leadership should provide cross-training and career progression opportunities for employees who wish to take advantage of these developmental programs. This would include implementing training and educational opportunities for career and personal growth and assigning challenging work projects and more responsibility to employees who wish to grow (Heathfield, 2009).

NCRCC leadership should also recognize that even under the best circumstances, employees might choose to leave the organization for personal reasons such as career advancement or new experiences. It is unlikely that NCRCC can prevent this; however, it can control it to mitigate any possible damage that it may cause. Leadership should initiate a portability program with other contracting organizations in which participating contracting organizations can permit employees to swap positions with employees from other participating organizations as long as both swapping employees have the same or similar credentials. This mutually beneficial arrangement would allow employees to expand their breadth of experience, reduce the number of vacancies, and reduce the costs associated with skill deficits.

“Once retention intervention efforts have been implemented, it is important that they be evaluated and appropriate follow-up and adjustments made” (Mathis & Jackson, 2003, p. 93). Proactive efforts to control employee turnover and development will protect the NCRCC brand and allow NCRCC to maintain a competitive advantage over other organizations in the National Capital Region (NCR), in terms of successful performance.

#### **F. NCRCC’S CONTRACT MANAGEMENT PROCESS CAPABILITY MATURITY**

This research evaluates CM process capability maturity for CCE and ITEC4 separately. This approach proves to be most beneficial for a variety of

reasons. First, assessing maturity for each subordinate contracting center separately allows a more detailed and focused assessment of NCRCC's CM process maturity. Second, separate assessments allow NCRCC stakeholders to identify process capability or knowledge deficiencies in each subordinate contracting center so that it can tailor specific training and education efforts to improve the process maturity for the divisions or departments that need it. Third, individual subordinate contracting center assessments will allow NCRCC stakeholders to identify best practices and lessons learned in one subordinate contracting center and share these with the other. Last, with separate assessments, comparisons and analyses can be made between the two centers, thus, NCRCC stakeholders can tailor its training and process improvement efforts on similar contract requirements (e.g. master contracts for Army or DoD use)" (Garrett & Rendon, 2005a, p. 80).

This study assessed survey responses from NCRCC nonsupervisory contract specialists grade GS-12 and above. Approximately 204 employees were eligible to participate and 137 surveys were completed (20 for CCE and 117 for ITEC4) for a response rate of 67%.

Table 3 illustrates the CM process maturity level for NCRCC. The table shows that CCE's CM process maturity level for five of the key process areas: Procurement Planning, Solicitation Planning, Solicitation, Contract Administration, and Contract Closeout is Ad-hoc. Its maturity level for Source Selection is Basic. ITEC4's CM process maturity level is Basic for all six key processes areas.

CONTRACT MANAGEMENT MATURITY MODEL©						
Maturity Level	Contract Management Key Process Areas					
	Procurement Planning	Solicitation Planning	Solicitation	Source Selection	Contract Administration	Contract Closeout
Level 5 Optimized						
Level 4 Integrated						
Level 3 Structured						
Level 2 Basic	ITEC4	ITEC4	ITEC4	CCE ITEC4	ITEC4	ITEC4
Level 1 Ad-Hoc	CCE	CCE	CCE		CCE	CCE

Table 3. NCRCC Contract Management Maturity Model ©

### 1. Contracting Center of Excellence

CCE's survey responses for Procurement Planning, Solicitation Planning, Solicitation, Contract Administration, and Contract Closeout processes indicate that CCE acknowledges that CM processes exist, that these processes are accepted and practiced throughout various industries, and CCE's management understands the benefit and value of using CM processes. Although there are not any organization-wide established basic CM processes, some established CM processes may exist and CCE personnel use them but only apply them on an ad-hoc and sporadic basis to various contracts. Informal documentation of CM processes may also exist but CCE personnel only use them sporadically as well on various contracts. Further, NCRCC leadership does not hold CCE managers and personnel accountable for adhering to, or complying with, any CM processes or standards (Garrett & Rendon, 2005a, p. 53).

CCE's survey responses for the Source Selection process indicate that CCE has established some basic Source Selection processes and standards but management does not require NCRCC personnel to use them on all contracts.

CCE personnel apply standards only to selected complex, critical, or high-visibility contracts, such as contracts meeting certain dollar thresholds, or contracts with certain customers. CCE has some formal documentation for these established Source Selection processes and standards but does not consider them fully-established or institutionalized throughout CCE. There is no organizational policy requiring the consistent use of these Source Selection processes and standards other than on the required contracts (Garrett & Rendon, 2005a, p. 53).

## **2. Information Technology, E-Commerce and Commercial Contracting Center**

ITEC4's survey responses for Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration, and Contract Closeout processes indicate that ITEC4 has established some basic CM processes and standards but management does not require its personnel to use them on all contracts. ITEC4 personnel apply standards only to selected complex, critical, or high-visibility contracts, such as contracts meeting certain dollar thresholds, or contracts with certain customers. ITEC4 has some formal documentation for these established CM processes and standards but does not consider these CM processes or standards fully established or institutionalized throughout ITEC4. There is no organizational policy requiring the consistent use of these CM processes and standards other than on the required contracts (Garrett & Rendon, 2005a, p. 53).

## **G. CONTRACT MANAGEMENT PROCESS CAPABILITY MATURITY RECOMMENDATIONS**

### **1. Contracting Center of Excellence**

Based on CMMM © survey responses, CCE received an *Ad-hoc* maturity rating for the Procurement Planning, Solicitation Planning, Solicitation, Contract Administration, and Contract Closeout key process areas. NCRCC leadership should be seriously concerned that, according to the survey responses, there are

no established basic processes and standards in place for these CM processes (Garrett & Rendon, 2005a, p. 89). Survey responses indicate that in CCE, processes and standards exist and CCE documents them only on an ad-hoc and sporadic basis. Further, based on survey responses, NCRCC leadership does not hold CCE managers and CM personnel accountable for adhering to, or complying with, any processes or standards. NCRCC and CCE leadership should be concerned about its personnel's awareness and understanding of contract standards and documentation requirements for these processes (Garrett & Rendon, 2005a, p. 89).

In order for CCE to move up to the *Basic* maturity level, NCRCC and CCE leadership should establish processes and standards for Procurement Planning, Solicitation Planning, and Solicitation, Contract Administration, and Contract Closeout key process areas and require CCE personnel to use them on their contracts. NCRCC and CCE leadership should develop formal documentation for CCE's processes and standards and institutionalize them throughout the CCE (Garrett & Rendon, 2005a, p. 53).

CCE received a *Basic* maturity rating for the Source Selection key process area. In order for CCE to move up to the *Structured* level, NCRCC and CCE leadership should fully-establish Source Selection processes and standards, institutionalize them, and mandate CCE personnel to use them on all contracts. Leadership should develop formal documentation for their Source Selection processes and standards and take steps to automate them. NCRCC and CCE leadership should be involved in providing guidance, direction, and approval of key contracting strategy, decisions, related contract terms and conditions, and Source Selection documents (Garrett & Rendon, 2005a, p. 53).

Moreover, NCRCC and CCE leadership should initiate organization-wide Source Selection training programs that cover using evaluation criteria, evaluation standards, and a weighting system to evaluate proposals, using sealed bidding procedures and contracting by negotiations, using appropriate selection criteria, such as lowest cost/technically acceptable or best value to

meet the objectives of the acquisition strategy. This training should also include comparing cost proposals with independent, internal cost estimates, considering offerors' past performance, as well as technical, managerial, and financial capability (Garrett & Rendon, 2005a, p. 66).

## **2. Information Technology, E-Commerce and Commercial Contracting Center**

Based on CMMM © survey responses, ITEC4 received a *Basic* maturity rating for all six key process areas. In order for ITEC4 to move up to the *Structured* level, NCRCC and ITEC4 leadership should fully-establish processes and standards for all of the key process areas, institutionalize them, and mandate ITEC4 personnel to use them on all contracts. Leadership should develop formal documentation for their CM processes and standards and take steps to automate them. NCRCC and ITEC4 leadership should be involved in providing guidance, direction, and approval of key contracting strategy, decisions, related contract terms and conditions, and CM documents (Garrett & Rendon, 2005a, p. 53).

Once ITEC4 increases its maturity to the *Structured* level for all CM process areas, it should pursue higher CM process maturity levels by developing and implementing efficiency and effectiveness metrics to measure the CM processes and to make contracts-related decisions and require NCRCC personnel to use them. The leadership should also build a lessons-learned and best practices database as a resource for NCRCC personnel to use. This would also be effective in increasing the maturity level for each of the six key process areas (Garrett & Rendon, 2005a, p. 88).

## **H. SUMMARY**

The chapter presented the NCRCC turnover analysis results, CM process maturity analysis results and discussed recommendations for improvement.

NCRCC's average turnover for the period observed is approximately 2.99. This is more than twice that of the Federal Government's turnover rate for the same period but based on the Bureau of Labor and Statistics, it is considered low. Despite the low rate, NCRCC stakeholders should continue to monitor turnover, track the costs associated with it, and assess its impact on the organization. NCRCC leadership should implement measures to retain its employees because seasoned contract specialists should be capable of performing CM processes at a high maturity level, so long as NCRCC has standardized, institutional processes and management requires employees to use them.

CMMM© survey results show that CCE's CM process maturity level for five of the key process areas: Procurement Planning, Solicitation Planning, Solicitation, Contract Administration, and Contract Closeout is *Ad-hoc* and its maturity level for Source Selection is *Basic*. ITEC4's CM process maturity level is *Basic* for all six key processes areas. NCRCC and CCE leadership should be concerned about its personnel's awareness and understanding of CM process standards and documentation requirements for these processes and take steps to move CCE up to the *Basic* maturity level for those areas. NCRCC leadership should also take the necessary steps to move CCE up to the *Structured* level for Source Selection. Additionally, NCRCC leadership should take steps so that ITEC4 moves up to the *Structured* level for all six key process areas. These steps include establishing and institutionalizing processes and standards, and mandating its employees to use them on all contracts. Once NCRCC reaches *Structured* maturity level for all CM processes, it can focus on pursuing higher levels of CM process capability. This would involve initiating organization-wide CM training, developing efficiency and effectiveness metrics, and building a lessons-learned and best practices database. The next chapter will present the author's research conclusions, summarize the research findings, and discuss possible areas for further research.



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## **V. SUMMARY, CONCLUSIONS, AND AREAS FOR FURTHER RESEARCH**

### **A. INTRODUCTION**

The previous chapters discussed the purpose and objectives of the study, provided background information, and introduced the primary and secondary research questions. The study discussed the current contracting environment, employee turnover, CM process capability and the Contract Management Maturity Model © (CMMM), and their impact of contracting organizations. Next, it outlined the National Capital Region Contracting Center role in the Army and explained why NCRCC is suitable for this study. Then it provided the results of the NCRCC turnover analysis and the results of the CM process maturity analysis.

This final chapter will summarize the research presented, provide the research conclusions, and present areas for further research.

### **B. RESEARCH SUMMARY**

This study analyzed the turnover rate for NCRCC contract specialists grade GS-12 and above for the period of April 2008 through March 2009. This research also assessed NCRCC's Contract Management (CM) process capability maturity level by deploying survey questions to the targeted NCRCC workforce and using the Contract Management Maturity Model ©.

Based on the research results, here are the answers to the two primary and four subsidiary research questions:

## **Primary Research Questions**

### **1. What is the Current Turnover Rate of Contract Specialists in NCRCC?**

The average monthly NCRCC contract specialist turnover rate for April 2008 through March 2009 is approximately 2.99. This is more than twice the turnover rate of the entire Federal Government, which is 1.29 for the same period but is low given the competitive environment in which NCRCC is located.

### **2. What is the Current Maturity Level of NCRCC's Contract Management Processes?**

CCE's CM process maturity level for five of the six key process areas, Procurement Planning, Solicitation Planning, Solicitation, Contract Administration, and Contract Closeout is Ad-hoc. CCE's maturity level for Source Selection is Basic. ITEC4's CM process maturity level is Basic for all six key processes areas.

## **Subsidiary Research Questions**

### **3. Is There a Relationship Between NCRCC Contract Specialist Turnover and the Maturity Level of its Contract Management Processes?**

Based on the research results and analysis presented above, there is no apparent relationship between NCRCC contract specialist turnover and the maturity level of its CM process capability.

### **4. How Does the Contract Specialist Turnover Rate Affect NCRCC's Contract Specialist Average Experience Level?**

NCRCC does not maintain records with regard to contract specialist experience.

**5. How Does NCRCC's Contract Specialist Average Experience Level Affect its Training Requirement?**

NCRCC does not maintain records with regard to contract specialist experience.

**6. How Can NCRCC Raise its Maturity Level?**

In order for CCE to raise its maturity level for Procurement Planning, Solicitation Planning, and Solicitation, Contract Administration, and Contract Closeout key process areas, NCRCC and CCE leadership should establish processes and standards for those areas and require CCE personnel to use them on their contracts. NCRCC and CCE leadership should develop formal documentation for CCE's processes and standards and institutionalize throughout the CCE (Garrett & Rendon, 2005a, p. 53).

In order for CCE to raise its maturity level for the Source Selection key process area, NCRCC and CCE leadership should fully-establish Source Selection processes and standards, institutionalize them, and mandate CCE personnel to use them on all contracts. Leadership should develop formal documentation for their Source Selection processes and standards and take steps to automate them. NCRCC and CCE leadership should be involved in providing guidance, direction, and approval of key contracting strategy, decisions, related contract terms and conditions, and Source Selection documents (Garrett & Rendon, 2005a, p. 53).

NCRCC and CCE leadership should also initiate an organization-wide Source Selection training program that covers using evaluation criteria, evaluation standards, and a weighting system to evaluate proposals, using sealed bidding procedures and contracting by negotiations, using appropriate selection criteria, such as lowest cost/technically acceptable or best value to meet the objectives of the acquisition strategy. This training should also include comparing cost proposals with independent, internal cost estimates, considering

the offeror's past performance, as well as technical, managerial, and financial capability (Garrett & Rendon, 2005a, p. 66).

In order for ITEC4 to raise its maturity level for Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration, and Contract Closeout key process areas, NCRCC and ITEC4 leadership should establish processes and standards for all of the key process areas, institutionalize them, and mandate ITEC4 personnel to use them on all contracts. Leadership should develop formal documentation for their CM processes and standards and take steps to automate them. NCRCC and ITEC4 leadership should be involved in providing guidance, direction, and approval of key contracting strategy, decisions, related contract terms and conditions, and CM documents (Garrett & Rendon, 2005a, p. 53).

Having achieved *Structured* for all CM process areas, the NCRCC leadership should develop efficiency and effectiveness metrics to measure the CM processes and to make contracts-related decisions and require NCRCC personnel to use them. The leadership should also build a lessons-learned and best practices database as a resource for NCRCC personnel to use. This would also be effective in increasing the maturity level for each of the six key process areas (Garrett & Rendon, 2005a, p. 88).

### **C. RESEARCH CONCLUSIONS**

The research shows that the NCRCC turnover rate is low as compared to the Federal Government's turnover rate for the period observed; however, NCRCC leadership should take measures to protect its brand by managing employee turnover, tracking total cost of ownership, retaining employees who possess key skills, controlling employee separations and following up and adjusting its efforts.

Although NCRCC's turnover rate is low, the NCRCC stakeholders should analyze its turnover rate regularly in order to track its progress and make adjustments as needed. The stakeholders should also use the turnover data to calculate and track the costs associated with it and determine its impact on the organization. They should remember to take into account intangible costs associated with turnover such as possible damage to the NCRCC brand and loss of intellectual assets. NCRCC leadership should implement measures to retain its employees because seasoned contract specialists should be capable of performing CM processes at a high maturity level, so long as NCRCC has standardized, institutional processes and management requires employees to use them.

The research also shows that generally, the CM process maturity level for NCRCC is low. CCE received an *Ad-hoc* maturity rating for the Procurement Planning, Solicitation Planning, Solicitation, Contract Administration, and Contract Closeout key process areas and a *Basic* maturity rating for the Source Selection key process area. ITEC4 received a *Basic* maturity rating for all six key process areas. NCRCC can improve CCE's and ITEC4's process maturity levels in each of the key areas by establishing formal processes, standardizing them and mandating their use. Additionally, NCRCC leadership should implement a training program for its employees focused on the key process areas. Finally, NCRCC leadership should use efficiency and effectiveness metrics to measure the CM processes and to make contracts-related decisions (Garrett & Rendon, 2005a, p. 89).

Based on the research results and analysis presented above, there is no apparent relationship between NCRCC contract specialist turnover and the maturity level of its CM process capability. The NCRCC turnover rate is slightly higher than, but consistent with, the turnover rate for the entire Federal Government nationwide during the period observed, which is fairly low, given the current 'buyer's market' for contract specialists in NCR. Research shows that for

the period observed, NCRCC has a stable workforce with regard to its employees who work at journeyman or advanced levels.

On the other hand, the NCRCC CM process capability levels are immature for each of its subordinate contracting centers. CCE does not appear to have established basic CM processes and performs functions informally and sporadically. In addition, in the area of Source Selection, it has some established CM processes but does not utilize the processes consistently for all of its procurements. ITEC4 appears to have established CM processes for all six key process areas but does not utilize them consistently. It is not evident, based on the research that the NCRCC contract specialist turnover is related to CM process capability.

#### **D. AREAS FOR FURTHER RESEARCH**

The author's recommendations for additional research based on this study's findings are as follows:

The NCRCC Office of the Principal Assistant Responsible for Contracting (OPARC) should use the results of this study as a baseline assessment for NCRCC employee turnover and CM process improvement. Since NCRCC is a newly formed contracting organization, its leadership and OPARC are in the process of establishing standardize CM processes. The results of identifies areas that need additional emphasis and can assist the PARC and OPARC in determining where to focus its efforts.

The NCRCC stakeholders should reassess and document its turnover rate regularly and report it to management so that management can spot trends, potential problems, and make adjustments as needed.

The NCRCC stakeholders should reassess CM process maturity regularly using the CMMM© to track the results of process improvement efforts and the implementation of lessons learned and best practices.

The NCRCC stakeholders should compare the results of the study with those of other ACC contracting organizations to allow for comparisons and analyses between organizations so that ACC stakeholders can implement broad training and process improvement efforts.



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## **APPENDIX NCRCC CONTRACT SPECIALIST STATISTICAL DATA AND QUALIFICATION QUESTIONS AND ANSWERS**

The author collected NCRCC contract specialist turnover statistical data and qualifications from NCRCC's HR for the period of April 2008 through March 2009. The author used this data to calculate the turnover rate and determine if there was a relationship between turnover and CM process maturity. The questions asked and HR's answers are as follows:

### **1. Contract Specialist Turnover Rate Statistics**

- 1) How many GS-1102 billets grade GS-12 and above (or NSPS equivalent) did CCE\ITEC4 have for the period observed?

**Answer:**

#### **April – September 2008**

Total GS-12 and above: 243 (112\131)

Managers: 39 (28\11)

**Total Nonsupervisory Grade GS-12 and above:  $243 - 39 = 204$**

#### **October 2008 – March 2009**

Total GS-12 and above: 231 (100\131)

Managers: 39 (28\11)

**Total Nonsupervisory Grade GS-12 and above:  $231 - 39 = 192$**

- 2) How many vacant billets did CCEITEC4 have each month during the period observed?

**Answer:**

<b>NCRCC Vacant 1102 Billets</b> <b>Grade GS-12 and above (or NSPS equivalent) Non Supervisory</b> <b>(April 2008 – March 2009)</b>	
<b>Month</b>	<b>CCEITEC4</b>
April 2008	68 (40\28)
May 2008	65 (40\25)
June 2008	68 (43\25)
July 2008	67 (46\21)
August 2008	80 (49\31)
September 2008	74 (49\25)
October 2008	71 (43\28)
November 2008	71 (43\28)
December 2008	67 (42\25)
January 2009	69 (43\26)
February 2009	76 (45\31)
March 2009	69 (43\26)

- 3) How many new GS-1102 employees did CCEITEC4 hire to fill vacant billets each month during the period observed?

**Answer:**

<b>NCRCC 1102 New Hires</b> <b>Grade GS-12 and above (or NSPS equivalent) Non Supervisory</b> <b>(April 2008 – March 2009)</b>	
<b>Month</b>	<b>CCEITEC4</b>
April 2008	9 (3\6)
May 2008	3 (0\3)
June 2008	2 (1\1)
July 2008	1 (0\1)
August 2008	11 (3\8)
September 2008	3 (0\3)
October 2008	5 (2\3)
November 2008	2 (0\2)
December 2008	5 (3\2)
January 2009	5 (1\4)
February 2009	8 (2\6)
March 2009	9 (2\7)

- 4) How many GS-1102 employees separated CCEITEC4 each month during the period observed?

**Answer:**

<b>NCRCC 1102 Separations</b> <b>Grade GS-12 and above (or NSPS equivalent)</b> <b>Non Supervisory</b> <b>(April 2008 – March 2009)</b>	
<b>Month</b>	<b>CCEITEC4</b>
April 2008	7 (3\4)
May 2008	5 (1\4)
June 2008	5 (3\2)
July 2008	8 (2\6)
August 2008	8 (5\3)
September 2008	6 (2\4)
October 2008	4 (3\1)
November 2008	3 (3\0)
December 2008	4 (1\3)
January 2009	7 (3\4)
February 2009	3 (2\1)
March 2009	6 (4\2)

5) How many GS-1102 contractor employees does CCE\ITEC4 have?

**Answer: 44 (9\35) (Research data not used in report)**

6) How many GS-1102 interns does CCE\ITEC4 have?

**Answer: 47 (10\37) (Research data not used in report)**

7) How many GS-1102 employees are managers, branch chief or above?

**Answer: 39 (11\28)**

## **2. Contract Specialist Qualifications**

1) What is the average number of years of contracting experience for GS-1102 employees hired during the period observed?

**Answer:**

**Information is unavailable because:**

- **new to the Government so previous experience is not in the system,**
- **interns and fellows have no experience, and**
- **several have many years of experience but the information in the system does not go beyond 2002**

2) What is the average number of years of contracting experience for GS-1102 employees who separated during the period observed?

**Answer: Information is unavailable because the people have left and therefore no longer able to see their personnel data in the system**

3) What is the required DAWIA certification level for each GS-1102 billet grades GS-12 and above (or NSPS equivalent)?

**Answer:**

- **GS- 12: Level II**
- **GS-13: Level III**

4) How many GS-1102 employees meet the DAWIA certification level of their billet?

**Answer: only one does not meet the DAWIA certification level of billet**

5) How GS-1102 contractor employees meet the DAWIA certification level of their position?

**Answer: No access to this information (Research data not used in report)**

6) What is the average DAWIA certification level for GS-1102 interns?

**Answer:**

- **GS-5 and GS-7: Level I**
- **GS-9 and GS-11: Level II**

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